General

Guideline Title

Gestational diabetes mellitus.

Bibliographic Source(s)

American College of Obstetricians and Gynecologists (ACOG). Gestational diabetes mellitus. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2013 Aug. 11 p. (ACOG practice bulletin; no. 137). [59 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: American College of Obstetricians and Gynecologists (ACOG). Gestational diabetes. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2001 Sep. 14 p. (ACOG practice bulletin; no. 30). [105 references]

Recommendations

Major Recommendations

The grades of evidence (I-III) and levels of recommendations (A-C) are defined at the end of "Major Recommendations" field.

The following recommendation and conclusion are based on good and consistent scientific evidence (Level A):

- Women in whom gestational diabetes mellitus (GDM) is diagnosed should be treated with nutrition therapy and, when necessary, medication for both fetal and maternal benefit.
- When pharmacologic treatment of GDM is indicated, insulin and oral medications are equivalent in efficacy, and either can be an appropriate first-line therapy.

The following recommendations are based on limited or inconsistent scientific evidence (Level B):

- All pregnant patients should be screened for GDM, whether by the patient's medical history, clinical risk factors, or laboratory screening test results to determine blood glucose levels.
- Women with GDM should be counseled regarding the option of scheduled cesarean delivery when the estimated fetal weight is 4,500 g or more.

The following recommendations and conclusions are based primarily on consensus and expert opinion (Level C):

- In the absence of clear evidence supporting a cutoff of 135 mg/dL versus 140 mg/dL for the 1-h glucose screening test, it is suggested that health care providers select one of these as a single consistent cutoff for their practice, with factors such as community prevalence rates of

GDM considered in that decision.

- In the absence of clear comparative trials, one set of diagnostic criteria for the 3-hour oral glucose tolerance test (OGTT) cannot be clearly recommended above the other. However, given the benefits of standardization, practitioners and institutions should select a single set of diagnostic criteria, either plasma or serum glucose levels designated by the Carpenter and Coustan criteria or the plasma levels established by the National Diabetes Data Group, for consistent use within their patient populations.
- Once a woman with GDM begins nutrition therapy, surveillance of blood glucose levels is required to be certain that glycemic control has been established.
- Women with GDM with good glycemic control and no other complications can be managed expectantly. In most cases, women with good glycemic control who are receiving medical therapy do not require delivery before 39 weeks of gestation.
- Postpartum screening at 6–12 weeks is recommended for all women who had GDM to identify women with diabetes mellitus (DM), impaired fasting glucose, or impaired glucose tolerance (IGT). Women with impaired fasting glucose or IGT or diabetes should be referred for preventive therapy. The American Diabetes Association (ADA) recommends repeat testing at least every 3 years for women who had a pregnancy affected by GDM and normal results of postpartum screening.

Definitions:

Grades of Evidence

I Evidence obtained from at least one properly designed randomized controlled trial.

II-1 Evidence obtained from well-designed controlled trials without randomization.

II-2 Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group.

II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Levels of Recommendation

Level A — Recommendations are based on good and consistent scientific evidence.

Level B — Recommendations are based on limited or inconsistent scientific evidence.

Level C — Recommendations are based primarily on consensus and expert opinion.

Clinical Algorithm(s)

An algorithm titled "Management of Postpartum Screening Results" is provided in the original guideline document.

Scope

Disease/Condition(s)

Gestational diabetes mellitus (GDM)

Guideline Category

Diagnosis

Evaluation

Management

Risk Assessment

Screening

Clinical Specialty

Endocrinology

Obstetrics and Gynecology

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

- To provide a brief overview of the understanding of gestational diabetes mellitus (GDM)
- To provide management guidelines that have been validated by appropriately conducted clinical research
- To identify gaps in current knowledge toward which future research can be directed

Target Population

- All pregnant women (screening)
- Pregnant women with gestational diabetes mellitus (GDM)

Interventions and Practices Considered

Diagnosis/Screening

1. Gestational diabetes mellitus (GDM) screening for all pregnant women at 24-28 weeks of gestation:
    - Patient history
    - Assessment of medical risk factors
    - Measurement of blood glucose levels
    - Oral glucose tolerance testing (OGTT)
2. Selection of a single set of diagnostic criteria by health care providers
3. Postpartum screening (6-12 weeks)

Management/Treatment

1. Nutrition therapy
2. Referral for diabetes management
3. Weight loss and physical activity counseling
4. Insulin
5. Oral medications (glyburide, metformin)
6. Counseling regarding cesarean section delivery

Major Outcomes Considered

- Sensitivity and specificity of glucose tolerance test (GTT)

- Predictive value of preprandial and postprandial glucose measurements
- Fetal morbidity and mortality
- Neonatal morbidity and mortality
- Incidence of diabetes mellitus after gestational diabetes
- Incidence of adverse pregnancy outcomes

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The MEDLINE database, the Cochrane Library, and the American College of Obstetricians and Gynecologists' own internal resources and documents were used to conduct a literature search to locate relevant articles published between January 1990 and January 2013. The search was restricted to articles published in the English language. Priority was given to articles reporting results of original research, although review articles and commentaries also were consulted. Abstracts of research presented at symposia and scientific conferences were not considered adequate for inclusion in this document. Guidelines published by organizations or institutions such as the National Institutes of Health and the American College of Obstetricians and Gynecologists were reviewed, and additional studies were located by reviewing bibliographies of identified articles. When reliable research was not available, expert opinions from obstetrician–gynecologists were used.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Studies were reviewed and evaluated for quality according to the method outlined by the U.S. Preventive Services Task Force:

I Evidence obtained from at least one properly designed randomized controlled trial.

II-1 Evidence obtained from well-designed controlled trials without randomization.

II-2 Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group.

II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Analysis of available evidence was given priority in formulating recommendations. When reliable research was not available, expert opinions from obstetrician-gynecologists were used. See also the "Rating Scheme for the Strength of the Recommendations" field regarding Level C recommendations.

Rating Scheme for the Strength of the Recommendations

Based on the highest level of evidence found in the data, recommendations are provided and graded according to the following categories:

Level A â€" Recommendations are based on good and consistent scientific evidence.

Level B â€" Recommendations are based on limited or inconsistent scientific evidence.

Level C â€" Recommendations are based primarily on consensus and expert opinion.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

Practice Bulletins are validated by two internal clinical review panels composed of practicing obstetrician-gynecologists generalists and sub-specialists. The final guidelines are also reviewed and approved by the American College of Obstetricians and Gynecologists (ACOG) Executive Board.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Improved understanding and appropriate diagnosis and management of gestational diabetes mellitus (GDM)

Potential Harms

Not stated

Qualifying Statements

Qualifying Statements

The information is designed to aid practitioners in making decisions about appropriate obstetric and gynecologic care. These guidelines should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Audit Criteria/Indicators

Clinical Algorithm

Foreign Language Translations

Patient Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2001 Sep (revised 2013 Aug)

Guideline Developer(s)

American College of Obstetricians and Gynecologists - Medical Specialty Society

Source(s) of Funding

American College of Obstetricians and Gynecologists (ACOG)

Guideline Committee

American College of Obstetricians and Gynecologists (ACOG) Committee on Practice Bulletins-Obstetrics

Composition of Group That Authored the Guideline

This Practice Bulletin was developed by the Committee on Practice Bulletins—Obstetrics with the assistance of Mark B. Landon, MD, and Wanda K. Nicholson, MD.

American College of Obstetricians and Gynecologists (ACOG) committees are created or abolished and their overall function defined by the Executive Board. Appointments are made for one year, with the understanding that such appointment may be continued for a total of three years. The majority of committee members are Fellows, but Junior Fellows also are eligible for appointment. Some committees may have representatives from other organizations when this is particularly appropriate to committee activities. The president elect appoints committee members annually.

Financial Disclosures/Conflicts of Interest

Not stated

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Guideline Availability

Electronic copies: None available

Print copies: Available for purchase from the American College of Obstetricians and Gynecologists (ACOG) Distribution Center, PO Box 933104, Atlanta, GA 31193-3104; telephone, 800-762-2264; e-mail: sales@acog.org. The ACOG Bookstore is available online at the ACOG Web site.

Availability of Companion Documents

A proposed performance measure is included in the original guideline document.

Patient Resources

The following is available:

- Frequently asked questions: gestational diabetes. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2013 Sep. 3 p. Electronic copies: Available in Portable Document Format (PDF) from the ACOG Web site. Copies are also available in Spanish.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI on September 23, 2004. The information was verified by the guideline developer on December 9, 2004. This NGC summary was updated by ECRI Institute on October 25, 2013. This summary was updated by ECRI Institute on April 15, 2016 following the U.S. Food and Drug Administration advisory on Metformin-containing Drugs.

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